

Y. duo finds way to inhibit cousin of AIDS virus

10 May 1988

PROVO — Two Brigham Young University microbi-

ologists have discovered that ribavirin, an antiviral drug showing promise in the treatment of AIDS, induces production of a protein that appears to inhibit an AIDS-related virus found in cattle.

James A. North and Byron K. Murray have been working with the bovine leukemia virus, or BLV, in cell culture. BLV is a retrovirus and close cousin to the virus that causes AIDS in humans.

Results of their research were presented this month in Florida at the annual meeting of the American Society for Microbiology.

Retroviruses, which require RNA to replicate, are dangerous because their properties can be altered by going through a DNA phase. Parts of the genetic coding from the DNA can be incorporated into the retrovirus during the process, creating a cell that can cause disease. Such conditions as leukemia, brain infection and

tumors are related to the phenomenon

If scientists can identify the protein involved in the disease-generating viruses, it could be more effective than drugs in treatment, North said.

By giving AIDS-related-complex (ARC) patients this protein instead of a drug, scientists would expect fewer harmful side effects and a greater chance of keeping the virus dormant longer.

ARC is the precursor to AIDS. People with ARC have been infected with the HIV virus, but have not yet experienced the disease symptoms identified by the Centers for Disease Control as AIDS.

Data from the BYU experiments suggest that ribavirin induces one or more proteins to bind to the part of a virus that regulates reproduction.

The compound appears to activate production of a protein that could shut off the deadly virus' regulatory code — effectively setting up a road block in the dis-

ease's progression.

"These proteins appear to be stimulated by the presence of ribavirin. We believe there's a lot of potential," North said.

Ribavirin was synthesized in 1972 by Roland K. Robins, former director of the Cancer Research Center at BYU. Robins created the drug while at the Nucleic Acid Research Institute in Costa Mesa, Calif., where he again works under one of its subsidiaries. Hundreds of scientific papers have been written about ribavirin, with a general consensus that it is effective against a wide range of both DNA and RNA viruses.

Other researchers have shown that by administering ribavirin to patients suffering from ARC, they may not develop the full-blown disease, the BYU researcher said.

The Food and Drug Administration so far has approved the use of ribavirin (prescribed as Virazole) for Please see AIDS on B2

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SO2 19

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TEMPERATURES —

low 60/41
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Reno	61	44	clr
St. Louis	79	58	.52 clr
San Francisco	65	52	cdy
Seattle	70	49	cdy
Spokane	70	44	cdy
Washington DC	72	49	r'n

Hottest: 103 Laredo TX
Coldest: 16 Gunnison CO

INTERNATIONAL

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Amsterdam	haze	1 pm	67	20
Auckland		mdnt	62	17
Beijing	clr	8 pm	68	20
Berlin	clr	1 pm	69	21
Calgary	fair	11 am	64	18
Cairo	clr	2 pm	86	30
Geneva	cdy	1 pm	60	15
Helsinki	clr	2 pm	52	11
Hong Kong	ptcl	8 pm	85	29
Jerusalem	ptcl	2 pm	72	22
Lisbon	ptcl	1 pm	64	18
London	haze	1 pm	55	13
Manila	ptcl	8 pm	89	31
Moscow	rain	3 pm	42	6
Pretoria	ptcl	2 pm	72	22
Riyadh	clr	3 pm	102	39
Rome	ptcl	1 pm	68	20
Seoul	cdy	9 pm	57	14
Tokyo	ptcl	9 pm	56	13

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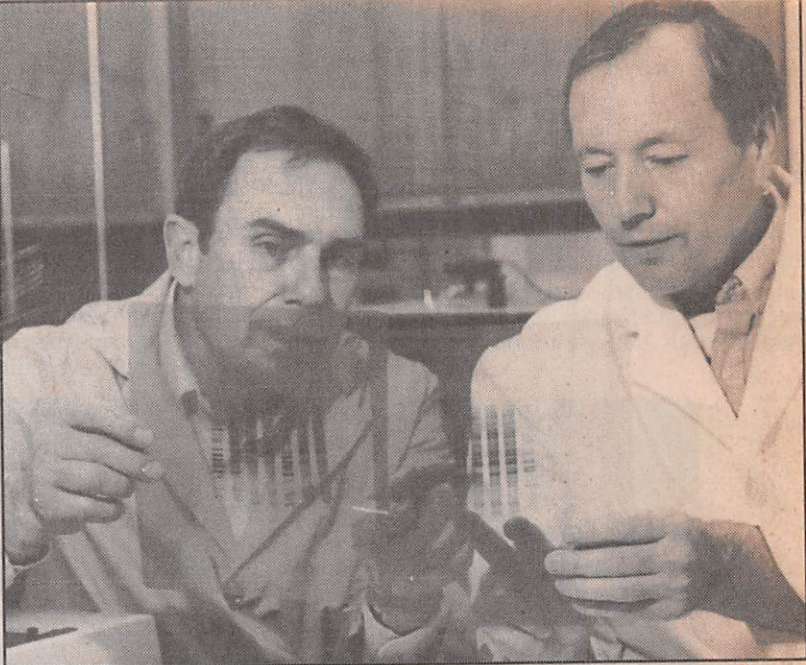
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Microbiologists James A. North and Byron K. Murray are testing effects of ribavirin on AIDS-like virus found in cattle.

AIDS

5-10-88

Continued from B1

limited use in patients with influenza-A and hepatitis-B, and for use in a lower-respiratory disease that usually affects infants. The California legislature also has approved the use of ribavirin for AIDS patients.

Importantly, ribavirin appears to be less toxic to patients than AZT — one of the few drugs available so far in the United States that appears to help some AIDS patients live longer.

The bovine leukemia virus is an ideal model for testing against experimental AIDS treatments, because its structure and chemical composition are closely related to the human immunodeficiency virus.

HIV devastates the human immune system, leaving victims susceptible to many kinds of opportunistic infections that normally are not life-threatening. Victims infected with

HIV are candidates for progression to full-fledged AIDS.

How cows develop the bovine leukemia virus is unknown at this point, said Murray.

"We know that ribavirin inhibits essential steps for these viruses to replicate . . . that they have very unique sequences they go through in order to reproduce."

In the BYU experiment, the scientists use fetal lamb kidney cells infected with the bovine leukemia virus to test drugs.

Although the two scientists believe a protein is inhibiting the virus' ability to reproduce itself, the specific protein hasn't yet been identified.

"We've shown that a protein does bind to the virus," said Murray. "Now we want to know where it is binding. Through our research we're looking to see if the protein binds to the regulatory part of the genome — thereby greatly slowing down the virus' progression."

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Group members claimed many bus against relocating in Utah County because Jill Lesh, president of the Utah League ers, said the Rand McNally "Places R ranked Utah County 326 out of 329 in t factor," which she said was primarily l carbon monoxide levels.

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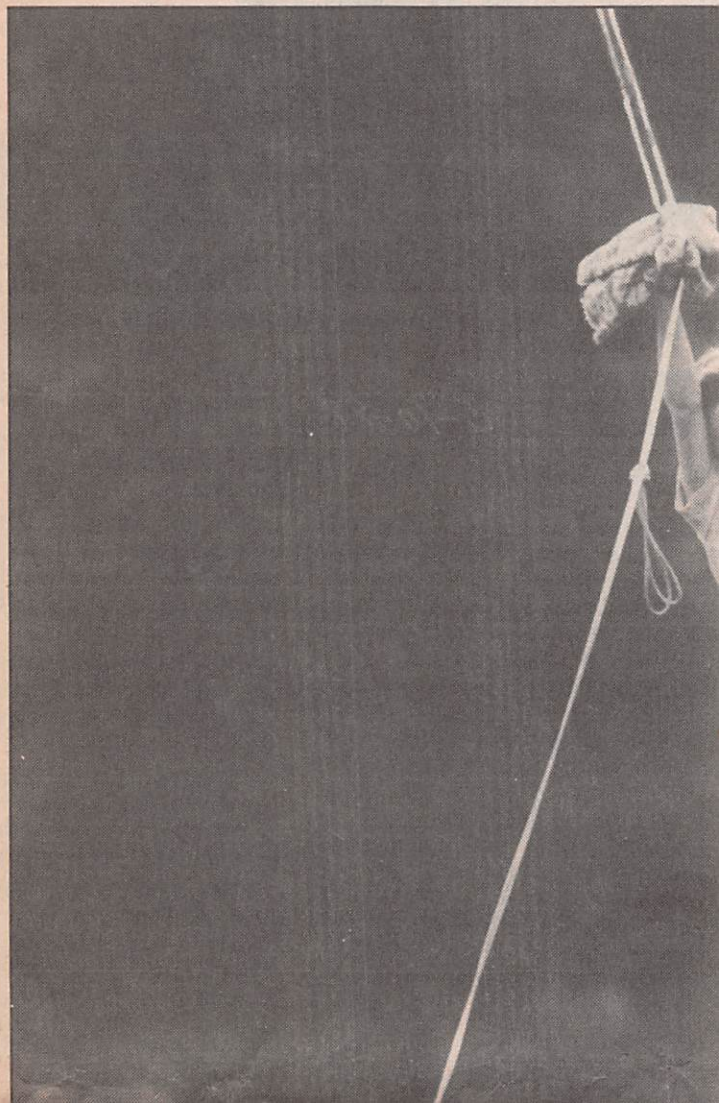
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SUITCASE PARTY: CELESTIAL FLIGHT 409

With much anticipation the adult ward members with suitcases in hand, arrived at terminal gate 1; Heber International Stake Center on Friday, April 4, 1986. Check in time was 6:30 p.m. Planned departure 6:45 p.m.

Unaware of flight plans to Honolulu Hawaii and due to airplane difficulties, dinner was awaiting them at United's Little Sidewalk Cafe while the plane was prepared. After dinner all present boarded the plane with great excitement for their flight.

While every one was settling in for the long flight and enjoying the inflight movie, the plane developed problems crashing with no survivors.

They were taken into each degree of glory; the telestial where it was very hot and noisy; the terrestrial where each saw how much they were of this world; and then to the celestial where beauty and peace awaited them. In the celestial kingdom each one was greeted lovingly by the bishopric and a beautifully spiritual program was presented to them.

This left ward members filled with the spirit of our Heavenly Father and recommitment to be more Christ-like and to strive for eternal salvation. This special activity was under the direction of Bonnie S. Coleman and Carrie May

p 111 Heber 2nd ward